

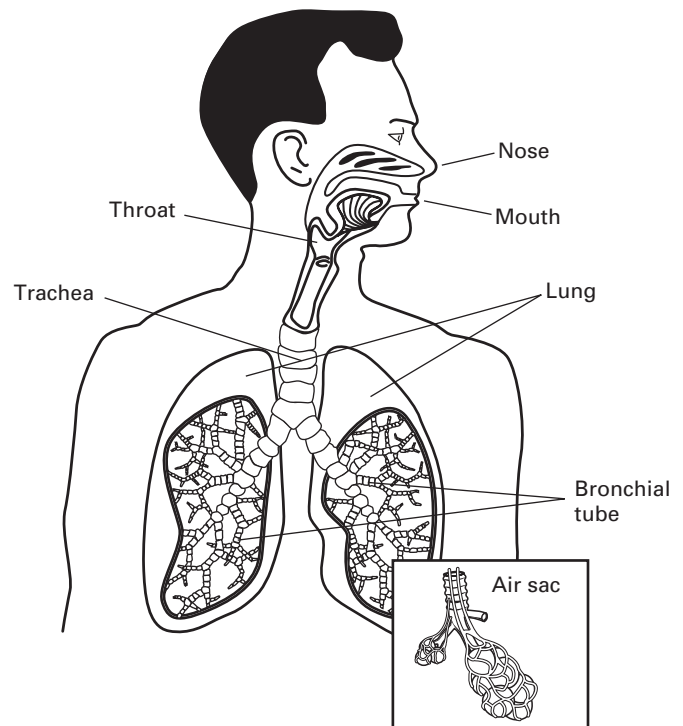
How Does Your Body Take in Oxygen?

Preparing Air for Your Lungs

About one-fifth of the air that you breathe in is a gas called oxygen. Your cells must have oxygen to do their work. Without oxygen, cells will die—some within 3–5 minutes. When you breathe in, your respiratory system brings air containing oxygen into your body. The cells in your body use the oxygen, and as they work, the cells produce carbon dioxide. This gas leaves your body as waste when you breathe out.

The respiratory system includes your nose, your lungs, and the tubes that connect them. Air enters the body through the nose, which has the job of getting the air ready for the lungs. If air is very cold, dry, or dirty it could damage your lungs. Your nose warms, moistens, and cleans the air that you breathe in. The blood supply and mucus in your nose keeps it warm and moist. The hairs in your nose capture the dust from the air.

After the air is warmed, moistened, and cleaned it goes to the throat and down the trachea, or windpipe. The trachea divides into two bronchial tubes, each of which goes into a lung.



Inside the Lung

Inside the lungs, the bronchial tubes divide into smaller and smaller tubes. Look at the picture above to help you visualize this description. The smallest tubes lead to clusters of tiny pouches called air sacs. A net of tiny blood vessels surrounds each air sac. Inhaled air, which is rich in oxygen, enters the air sacs. At this moment, the blood in the vessels around the air sacs contains a lot of carbon dioxide, which the blood has picked up from body cells. That blood contains little oxygen. An air exchange quickly takes place. Oxygen passes from the air sacs into the blood vessels. The blood now has oxygen to deliver to body cells. At the same time that oxygen passes out of the air sacs, carbon dioxide passes from the blood vessels into the air sacs. The carbon dioxide leaves your body when you exhale.